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## Report No. 12

Questions 30 to 42: Labour Market



NATIONAL CENSUS TEST  
EVALUATION OF LABOUR DATA

July 1989

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## I RECOMMENDATIONS

- A. The analysis completed indicates a lack of comprehension of Question 30 (Current Employment). This misunderstanding is evident in the inconsistency of responses between Question 30 and Question 44 (Current work for wages and salary) and in comparison with Labour Force Survey estimates. Question 30 does not provide a sufficiently accurate estimate of the employed population. Experience from previous Censuses has shown that a more accurate estimate can be obtained from two questions: one on "hours worked in the reference week" and a second on "absence from job in the reference week".

Questions on "hours worked in reference week" and "absence in reference week" can be expected to provide estimates of the employed which fall within the sampling variability of the Labour Force Survey. Statistics Canada will be seen as providing one estimate of this population. Confusion is created in the user community when estimates are provided by the Census which exceed the Labour Force Survey variability. The use of two questions on the 1991 Census can be expected to minimize this confusion at the provincial and sub-provincial levels and eliminate it at the national level.

These two questions are required for other reasons as well. The question on number of hours worked must be added back on to the questionnaire in order to assist in the interpretation of income and occupation data for employment equity purposes, and for the validation and possible derivation and computation of wage rate data. A question on absence from work must also be included to complete the data required to satisfy Statistics Canada's definition of the employed.

In 1981 and 1986, most Census labour data was produced for the labour force or for the experienced labour force sub-populations. A high percentage of our users combine our data with that from previous Censuses. From the user community perspective, it is desirable that Statistics Canada produce data based on universes comparable to previous Censuses.

After each Census, Statistics Canada is asked to provide data to organizations such as the United Nations and the International Labour Organization. These requests are always for persons in the labour force.

The experienced labour force consists of all persons who have worked since January 1 of the year previous to the Census i.e. in the previous 17 months and who were in the labour force as of the reference week. To be in the labour force, they must have been employed or unemployed. The estimates of the employed come from the two questions previously recommended. Estimates of the unemployed come from a response to the second of these 2 in combination with 3 additional questions which

were dropped during the selection process for the National Census Test. Questions on the unemployed must be included if we wish to provide estimates for the labour force and experienced labour force.

The additional benefit is, of course, that estimates for the unemployed would be available from the Census. This is an advantage for users of small area and Yukon and Northwest Territory data for which no Labour Force Survey estimates are available.

Therefore, it is recommended that the 5 former questions on labour force activity be included on the 1991 questionnaire.

- B. Although the data provide little concrete evidence of a lack of comprehension of Question 39 (Years of Work), labour force survey interviewers at the National Census Test debriefing sessions expressed very negative comments about this question. The answers to the re-interview questionnaire confirm that respondents are confused by this question. We recommend that this question not be included on the 1991 questionnaire.
- C. Given the analysis completed on responses to Question 40 (Work with present employer), it is recommended that this question be included on the 1991 questionnaire, albeit as "Priority 3". Additional analysis on the re-interview file data has shown that reliable data can be obtained from this question. If this question is added, it is recommended that it precede Question 41 (Weeks worked).
- D. It is recommended that questions relating to when last worked, class of worker, incorporation status, weeks worked and full/part time work be included on the 1991 questionnaire. In addition, it is recommended that the questions on incorporation status and full/part time work be presented as separate questions on the questionnaire and not as (b) portions of class of worker and weeks worked.
- E. It is recommended that questions relating to occupation and industry be included on the 1991 questionnaire. Given the improved rate of response noted when two-part questions such as the class of worker and weeks worked mentioned above were presented as separate questions, it is recommended that the component parts for occupation and industry be separate questions as on the NCT questionnaire.

## II EXECUTIVE SUMMARY

1. Question 30 (Current Employment) appears to under-enumerate the employed population.
2. Although this under-enumeration is evident in all age groups, it is most apparent among 15-19 year olds and particularly those 15 or 16.
3. In comparison with Question 44 (Current work for wages or salary), there appears to be a lack of response or incorrect response to Question 30.
4. In general, respondents' answers to Question 39 (Years of work) were consistent with their age and other variables such as sex and schooling. However, data from the re-interview questionnaire indicate that respondents did not understand the meaning of this question.
5. Respondents appear to provide answers to Question 40 (Work with present employer) which are consistent with other variables such as age and sex.
6. In general, the data on Question 31 (When last worked) appears to be a reliable indicator of work experience in the previous 23 months. Only when there is a conflict with a response to Question 41 (Weeks worked) does 'when last worked' appear less reliable.
7. Class of Worker (Question 39) and Incorporation Status (Question 38) were presented as 2 distinct questions on the NCT. This had led to a substantial reduction in the level of non-response to incorporation status.
8. The data from the weeks worked question appears to be better than what has been collected in previous Censuses. This improvement may be due to a change in question format and the presence of Question 40 (Work with present employer).
9. Weeks Worked (Question 41) and Full/part-time work (Question 42) were presented as 2 distinct questions on the NCT. This has led to a decrease in the level of non-response to 'Full/part-time work'.

### III INTRODUCTION

The National Census Test was conducted on November 4, 1988. The labour questions were of three types: a) those which were being tested for the first time (question 30), b) those which were modifications of questions formerly asked on Modular Test 1 (questions 39 & 40) and c) those which were asked on previous censuses (questions 31, 32, 33, 35, 36, 37, 38, 41, 42).

a) Q. 30 - IS THIS PERSON CURRENTLY EMPLOYED?

Question 30 was asked for the first time on the National Census Test. During discussions of final content for the NCT, the questions on hours worked in reference week and those asked to determine unemployment status were dropped. Question 30 was tested on the understanding that if the results were unacceptable from the stand point of either data quality or strong negative reaction from the user community, the decision to replace the usual 5 questions would be reviewed.

b) Q. 39 - SINCE THIS PERSON STOPPED GOING TO SCHOOL FULL TIME, IN HOW MANY YEARS HAS HE/SHE WORKED AT LEAST PART OF THE YEAR?

Q. 40 - WHEN DID THIS PERSON START TO WORK FOR THEIR PRESENT OR MOST RECENT EMPLOYER? IF SELF-EMPLOYED, SEE GUIDE.

Questions 39 and 40 had been successfully tested on Modular test 1. Respondents seemed in general to understand the questions and the rates of non-response were considered acceptable. Minor working changes were proposed and accepted for the National Census Test and the order of these 2 questions on the questionnaire was reversed.

c) The remaining questions were previously asked on the 1981 and 1986 Censuses. They were included on the NCT to ensure that the quality of responses to them would not be adversely affected by the presence of the new questions i.e. questions 30, 39 and 40, or by the redesign of the questionnaire format to a matrix approach. They were as follows:

Q. 31 - WHEN DID THIS PERSON LAST WORK, EVEN FOR A FEW DAYS?

Q. 32 - FOR WHOM DID THIS PERSON WORK?

Q. 33 - WHAT KIND OF BUSINESS, INDUSTRY OR SERVICE WAS THIS?

Q. 35 - WHAT KIND OF WORK WAS THIS PERSON DOING?

Q. 36 - IN THIS WORK, WHAT WERE THIS PERSON'S MOST IMPORTANT DUTIES OR ACTIVITIES?



- Q. 37 - IN THIS JOB, WAS THIS PERSON MAINLY WORKING FOR WAGES OR SALARY, WORKING WITHOUT PAY, SELF-EMPLOYED?
- Q. 38 - IF SELF-EMPLOYED, WAS THIS PERSON'S FARM OR BUSINESS INCORPORATED?
- Q. 41 - IN HOW MANY WEEKS DID THIS PERSON WORK IN 1987?
- Q. 42 - DURING MOST OF THOSE WEEKS, DID THIS PERSON WORK FULL TIME OR PART TIME?

As referred to in the evaluation of Question 30:

- Q. 44 - IS THIS PERSON CURRENTLY WORKING FOR A WAGE OR SALARY?

The present report will analyse the results of the National Census Test and will propose content for the 1991 Census. The report will deal individually with the three types of questions noted above and includes a description of all the analysis done to answer, among others, the questions raised in M. Sheridan's report to the Census Project Review Group.

## EVALUATION OF QUESTION 30 - IS THIS PERSON CURRENTLY EMPLOYED?

### INTRODUCTION

Question 30 was asked on the NCT in order to identify persons who were employed at the time of the census. Traditionally both the Census and the Labour Force Survey (LFS) have determined employment status from two questions, one on "hours worked in the reference week" and a second on "absence from job, in the reference week, due to illness, vacation, etc". The analysis of question 30 focuses on the ability of this simplified approach to adequately estimate the employed population. The following analysis has been carried out:

- I Comparison of the results of the NCT to those of the Labour Force Survey
  - a) General Comparisons - Canada & provinces
  - b) Comparisons of employment to population ratios - Canada
  - c) Comparisons by age group - Canada
  - d) Comparisons by class of worker - Canada
- II Consistency checks between the responses to question 30 and the responses to other questions on the NCT

### I COMPARISONS WITH THE LABOUR FORCE SURVEY

#### A) GENERAL COMPARISONS

The total number of persons 15 years and over who answered yes to question 30 (Is this person currently employed?) on the NCT, provides an estimate of the employed population, persons who worked in reference week or were absent due to vacation, illness, etc. In Table 1, this estimate (weighted) is compared to the employment estimates from the October and November Labour Force Survey.

At the Canada level the estimates of the NCT are lower than those of the LFS by approximately 6%. The difference is slightly greater for women than men. Only in the provinces of Newfoundland and Nova Scotia do the estimates from the NCT come within 2 standard deviations of the LFS results.

These results indicate an under-reporting of the employed population by the NCT.

There are, however, two factors which need to be taken into consideration. Firstly, there was a non-responses of 4% to question 30 among the persons 15 years and over. These persons were not assigned a value (imputed). Secondly the estimates from the NCT include persons in the Armed Forces. The LFS estimates are for the civilian employed only.

Adjustments were made for these factors using the results of the 1986 Census. The calculations used are outlined in Table 2.

Table 3 provides a comparison of the adjusted employment estimates from the NCT to the estimates from the Labour Force Survey. At the Canada level the estimates from the NCT were lower than the LFS by between 3 and 4%. This difference would not appear to be accounted for by sampling variability as the percentage difference is well in excess of the coefficient of variance (.33%) associated with the LFS estimates. Therefore the results are indicative of an under-reporting by the NCT.

The results obtained from the 1986 Census have been included in Table 1 of the Appendix. The employment data from the 1986 Census compared well with the estimates from the May and June 1986 LFS.

## **B) COMPARISONS OF EMPLOYMENT TO POPULATION RATIOS**

In the past the census has published labour force participation rates, unemployment rates and employment population ratios. Since no information was collected on the unemployed population from the NCT, the employment population ratio is the only economic indicator that can be measured. Table 4 provides a comparison of the population 15 years and over between the NCT and the LFS. The NCT estimates have been adjusted to remove the armed force. The results compare well. At the Canada level the NCT estimate falls between the October and November LFS estimate. Therefore differences in the employment population ratios between the NCT and the LFS are due to differences in the employment estimates. The ratios in Table 5 have been calculated using adjusted NCT employment estimates (armed forces and non-response considered) and the NCT population estimates from Table 4. For Canada, the NCT employment population ratio is lower than that of the LFS by 2 percentage points. As was the case for the employment estimates, the greatest differences occurred in Prince Edward Island and Saskatchewan and the least differences in Newfoundland and Nova Scotia.

## **C) COMPARISONS BY AGE GROUPS**

Comparisons of the age distribution of persons who answered "yes" to Question 30 on the NCT to the age distribution of the employed from the October and November Labour Force Survey are presented in Table 6. The distributions compare well for the older age groups (44-54, 54-64, 65+); the percentage of 25-44 year olds was slightly higher from the NCT than from the LFS. The greatest difference occurred among the 15-19 year olds, especially among those 15-16 years of age. The results of the NCT show a lower percentage of the employed population in the youngest age group than do the LFS results.

The actual estimate of 132,000 employed 15-16 year olders from the NCT is only slightly more than half the estimate from the October 1988 LFS. In order to improve the comparison the armed forces and the non-response should be taken into consideration. For this age group the number of persons in the armed forces is negligible. There were, however, 86,000 persons in the 15-16 year age category who left Question 30 blank. The results from the 1986 Census indicated that for the 15-19 year age group approximately 25% of the non-response (to the hours worked question) were imputed to employed. Using this percentage to estimate imputation results in an adjusted employment estimate of 154,000, still 41% lower than the October 1988 LFS estimate of 260,000.

Lower estimates for employed youth in the census versus the LFS is not a new finding. In 1986, the same problem was encountered. The estimate of employed 15-19 year olds from the census was 17% lower than the May 1986 LFS estimate and 28% below the estimate for June 1986. The problem appears to be more severe in the NCT, though it is difficult to compare. In addition the June 3, 1986 Census date coincides with the return of students to the labour force for the summer months. Likely the difference in reference period between the Census and LFS is a greater factor in June than in November. This would suggest that the November results should be closer than in June and that the large difference is due to under reporting of employment by teens.

Higher employment counts in the LFS than Census or NCT for 15-19 year olds are probably due to differences in methodology (i.e. interviewer approach in LFS versus self-enumeration in the census and NCT). The LFS interviewer can assure the respondent that work, even for one or two hours a week, at jobs such as babysitting and newspaper delivering should be included. Under the self-enumeration method, particularly with proxy responses, many of these types of jobs may be omitted.

#### **D) COMPARISONS BY CLASS OF WORKER**

In Table 7 the distribution of the employment estimates by class of worker are presented from the NCT and the October and November 1988 Labour Force Survey. The estimates from the NCT are restricted to those persons who answered "yes" to question 30 and did not leave question 37 (class of worker) blank. For both men and women the percentage of paid workers is higher in the NCT than in the LFS and conversely the percentage of self-employed is lower from the NCT. The unpaid family workers were reported in approximately the same proportions in the NCT and the LFS.

These results are consistent with the findings of the 1986 Census (see Appendix Table 2). The reasons cited in the 1986 certification report were differences in methodology between the Census and the Survey and a coverage difficulty in the Census of marginal workers. Marginal workers are persons who do not have long term attachments to the labour market. Included in this group would be persons who enter, leave, and reenter the labour force, often,

in jobs requiring little work experience. These factors are likely the cause of the differences between the NCT and Survey results as well.

## II CONSISTENCY CHECKS

Question 44 - IS THIS PERSON CURRENTLY WORKING FOR WAGES AND SALARY? was included on the NCT to act as a filter question to the income question on wage rates. The results to questions 30 and 44 provide an interesting comparison. In theory anyone who answered "yes" to question 44 should also have answered "yes" to question 30. However, there were inconsistencies in the results. Close to half a million persons who indicated that they were currently working for wages and salary answered "no" or left question 30 blank (Table 8). These inconsistent results were distributed among all age groups for males and females throughout the provinces.

In order to investigate these results further the "write-in" responses to the industry and occupation questions were reviewed. Of the respondents who answered Q30=NO & Q44=YES 17% left the industry and occupation questions blank. The "write-ins" for the remaining 83% were diverse including such occupations as teachers, babysitters, cooks, clerks, cashiers, construction workers, farm labourers, etc. It appears as though the majority of persons who answered Q30=NO & Q44=YES should have answered "yes" to question 30.

The written responses to industry and occupation were also examined for persons who answered Q30=BLANK & Q44=YES. For these persons the non-response to industry and occupation was 72%. The "write-ins" for the remaining 28% were varied.

These inconsistencies between questions 30 and 44 indicate confusion on the part of some respondents as to the meaning of "currently employed". The confusion was not restricted to the English version of the questionnaire, as 25% of the inconsistencies occurred in Quebec. Although the guide explained whom to include past experience has indicated that the use of the guide is limited. It is possible that many of the persons who answered Q30=NO & Q44=YES were marginal workers who may have interpreted question 30 to mean permanent employment. Most likely there are many reasons for these inconsistent results.

There is an additional relationship which should exist between questions 30 and 44. Anyone who answered "yes" to question 30 - (they were currently employed) and answered "no" to question 44 - (they were not currently working for wages and salary) should be either self-employed or unpaid family workers. The class of worker responses from question 37 for persons Q30=YES & Q44=NO revealed that 23% of these respondents reported that they were paid workers. This further inconsistency points out the continuing problem encountered in a self-enumeration survey. Although detailed

definitions of class of worker categories were provided in the guide, the distinction among the paid workers, self-employed and unpaid family workers does not appear to be well understood.

## DIFFERENCES BETWEEN THE NCT AND THE LABOUR FORCE SURVEY

The Labour Force Survey provides estimates of the employed population on a monthly basis. Employment data from the NCT were compared to the results from the October 1988 and November 1988 Labour Force Survey. Some differences between the NCT and the Survey need to be mentioned.

### Coverage:

Both the NCT and the Survey provide similar coverage of Canada's population. They exclude the Yukon and Northwest Territories, Indians on reserves and overseas households. In addition the Survey excludes members of the Armed Forces, who are included in the sample used by the NCT.

### Sample:

The sample sizes differ between the NCT and the Survey. In the Survey approximately 48,000 households were sampled while the NCT sample was 32,000 households. The estimates from both these data sources are subject to sampling error.

Weighting: The weighting is the same as the LFS weighting. Edits for the LFS (i.e. imputation by similar record substitution or carry forward) could account for some of the differences.

### Reference period:

The estimates of employment from the Labour Force Survey refer to the weeks ending October 15th and November 12th. Normally census employment data refer to the week preceeding census day. However, because of the changes in the employment questions, in the NCT there was no mention of a reference week on the questionnaire.

### Other:

There were also differences in methodology (interviewer vs self-enumeration method) and processing (treatment of non-response) between the NCT and the Labour Force Survey.

table 1

COMPARISON OF NATIONAL CENSUS TEST - NOVEMBER 1988 EMPLOYMENT DATA WITH OCTOBER AND NOVEMBER  
1988 LABOUR FORCE SURVEY DATA (REWEIGHTED TO 1986 POPULATION)

## EMPLOYED

PROVINCE	SEX	NCT 88	LFS-OCT 88	LFS-NOV 88	I DIFF OCT	C.V. OCT	I DIFF NOV	C.V. NOV
NEWFOUNDLAND	T	191,000	197,000	187,000	-3.05	1.46	2.14	1.78
	M	113,000	117,000	110,000	-3.42	1.40	2.73	1.85
	F	78,000	80,000	77,000	-2.50	2.48	1.30	2.62
PRINCE EDWARD ISLAND	T	46,000	55,000	53,000	-16.36	1.37	-13.21	1.68
	M	26,000	31,000	30,000	-16.13	1.59	-13.33	1.64
	F	19,000	24,000	23,000	-20.83	2.31	-17.39	2.74
NOVA SCOTIA	T	365,000	368,000	369,000	-0.82	1.10	-1.08	-1.16
	M	210,000	208,000	208,000	0.96	1.12	0.96	1.23
	F	155,000	160,000	161,000	-3.13	1.77	-3.73	1.86
NEW BRUNSWICK	T	269,000	291,000	281,000	-7.56	1.29	-4.27	1.36
	M	153,000	161,000	155,000	-4.97	1.44	-1.29	1.51
	F	116,000	130,000	125,000	-10.77	1.86	-7.20	1.92
QUEBEC	T	2,837,000	3,046,000	3,030,000	-6.86	0.82	-6.37	0.82
	M	1,649,000	1,738,000	1,737,000	-5.12	0.92	-5.07	0.95
	F	1,188,000	1,309,000	1,293,000	-9.24	1.25	-8.12	1.28
ONTARIO	T	4,641,000	4,864,000	4,860,000	-4.58	0.55	-4.51	0.57
	M	2,555,000	2,673,000	2,676,000	-4.41	0.58	-4.52	0.60
	F	2,086,000	2,191,000	2,183,000	-4.79	0.86	-4.53	0.86
MANITOBA	T	468,000	499,000	495,000	-6.21	0.98	-5.45	0.97
	M	255,000	273,000	271,000	-6.59	1.14	-5.90	1.13
	F	213,000	225,000	224,000	-5.33	1.57	-4.91	1.55
SASKATCHEWAN	T	409,000	454,000	447,000	-9.91	0.91	-8.50	0.81
	M	231,000	260,000	254,000	-11.15	0.94	-9.06	0.89
	F	179,000	194,000	194,000	-7.73	1.43	-7.73	1.40
ALBERTA	T	1,088,000	1,193,000	1,187,000	-8.80	0.74	-8.34	0.73
	M	618,000	667,000	662,000	-7.35	0.80	-6.65	0.76
	F	470,000	526,000	524,000	-10.65	1.13	-10.31	1.23
BRITISH COLUMBIA	T	1,246,000	1,358,000	1,345,000	-8.25	0.92	-7.36	1.03
	M	703,000	773,000	759,000	-9.06	0.95	-7.38	1.19
	F	543,000	585,000	585,000	-7.18	1.67	-7.18	1.70
CANADA	T	11,559,000	12,324,000	12,255,000	-6.21	0.33	-5.68	0.34
	M	6,512,000	6,900,000	6,862,000	-5.62	0.36	-5.10	0.38
	F	5,048,000	5,424,000	5,393,000	-6.93	0.52	-6.40	0.53

Source: 1) NCT 88: National Census Test, April 1989 Employed by Age and Sex  
Weighted Counts

2) LFS Oct, Nov 88: Labour Force Survey, Table H15, reweighted to 1989



Table 2

Simulation of the Imputation for the Employed of the National Test,  
Based on the 1986 Census

	A NCT Q30 = Yes	B NCT Q30 = Blank	C 1986 Rate of Impu. of Blanks	D Imputed Blanks B X C	E Employed +Imputed A + D	F 1986 % of Empl. in Armed Forces	G Estimated Armed Forces (EXF)/100	Adjusted Employed E - G
(000')								
CANADA	11,559	805	0.49	394	11,953	0.6	72	11,881
NFLD	191	15	0.49	7	198	0.5	1	197
PEI	46	8	0.49	4	50	1.9	1	49
NS	365	26	0.49	13	378	3.3	12	366
NB	269	20	0.49	10	279	1.6	4	275
QUE	2,837	183	0.49	90	2,927	0.4	12	2,915
ONT	4,641	225	0.49	110	4,751	0.4	19	4,732
MAN	468	26	0.49	13	481	0.8	4	477
SASK	409	28	0.49	14	423	0.3	1	422
ALTA	1,088	112	0.49	55	1,143	0.7	8	1,135
BC	1,246	161	0.49	79	1,325	0.5	7	1,318

Comparison of NCT adjusted employment data with October and November 1988 Labour Force Survey Data (reweighted to 1988 levels)

	Adjusted Employed NCT	LFS October 1988	LFS November 1988	% Difference October	% October	% Difference November	% November
NEED :	17	197	187	0	1.46	+5.3	1.76
PEL :	4	55	53	-3.6	1.37	-7.3	1.68
ALB. :	366	368	369	+0.3	1.10	+1.81	1.13
ALTA. :	173	291	291	-3.8	1.27	+1.1	1.36
BC :	1,315	3,346	3,659	+9.3	3.52	+9.6	3.62
ON. :	4,710	4,664	4,660	-2.7	3.53	-2.6	3.57
MAN. :	47	491	495	+4.7	1.10	+1.6	0.97
SASK. :	411	404	447	+8.1	0.91	+6.0	0.81
ALTA. :	1,152	1,193	1,187	-4.9	1.74	-1.4	0.73
BC :	1,315	1,358	1,345	-2.9	3.91	-1.0	1.00
CANADA :	11,115	12,152	12,155	+3.6	3.33	+3.1	3.34

Table 4

Comparison of NCT Adjusted Population 15 Years and Over and October and November 1988 Labour Force Survey Data (Reweighted to 1986 Census)

	Adjusted NCT Population 15+	OCT LFS	NOV LFS
NFLD	425	425	425
PEL	96	96	96
N.S.	673	673	673
N.B.	543	543	543
QUE.	5,189	5,190	5,192
ONT.	7,396	7,390	7,398
MAN.	804	803	803
SASK.	733	732	731
ALTA	1,789	1,789	1,791
B.C.	2,322	2,320	2,326
CANADA	19,968	19,962	19,979

TABLE 5

Comparison of NCT Employment/Population ratios (adjusted) to  
October and November 1988 Labour Force Survey Employment/  
Population Ratios

	EMPLOYMENT/ POPULATION RATIO NCT	OCTOBER LFS	NCT-OCT LFS DIFF	NOVEMBER LFS	NCT-NOV LFS DIFF
NFLD	46.4	46.4	--	44.1	2.3
PEI	51.0	56.8	-5.8	55.4	-4.4
N.S.	54.4	54.6	-0.2	54.8	-0.4
N.B.	50.6	53.7	-3.1	51.7	-1.1
QUE.	56.2	58.7	-2.5	58.4	-2.2
ONT.	64.0	65.8	-1.8	65.7	-1.7
MAN.	59.3	62.1	-2.8	61.7	-2.4
SASK.	57.6	62.0	-4.4	61.2	-3.6
ALTA	63.4	66.7	-3.3	66.3	-2.9
B.C.	56.8	58.5	-1.7	57.8	-1.0
CANADA	59.5	61.7	-2.2	61.3	-1.8

NCT2

table 6

Comparison of National Census Test, November 1988 employment data and Labour Force Survey October 1988 and November 1988 employment data  
(reweighted to 1986), Canada

Employed	NCT88		LFS Oct 88		LFS Nov 88	
	Number	%	Number	%	Number	%
Both Sexes	11,559,000	100.0	12,324,000	100.0	12,255,000	100.0
15-19	649,000	5.6	860,000	7.0	857,000	7.0
15-16	132,000	1.1	260,000	2.1	252,000	2.1
17-19	517,000	4.5	599,000	4.9	605,000	4.9
20-24	1,342,000	11.6	1,418,000	11.5	1,412,000	11.5
25-34	3,442,000	29.8	3,588,000	29.1	3,557,000	29.0
35-44	3,020,000	26.1	3,138,000	25.5	3,136,000	25.6
45-54	1,894,000	16.4	2,008,000	16.3	1,993,000	16.3
55-64	1,044,000	9.0	1,123,000	9.1	1,102,000	9.0
65+	168,000	1.5	190,000	1.5	200,000	1.6
Males	6,512,000	100.0	6,900,000	100.0	6,862,000	100.0
15-19	323,000	5.0	435,000	6.3	438,000	6.4
15-16	63,000	1.0	127,000	1.8	128,000	1.9
17-19	260,000	4.0	308,000	4.5	310,000	4.5
20-24	690,000	10.6	736,000	10.7	732,000	10.7
25-34	1,924,000	29.5	1,984,000	28.8	1,964,000	28.6
35-44	1,682,000	25.8	1,735,000	25.1	1,731,000	25.2
45-54	1,115,000	17.1	1,159,000	16.8	1,150,000	16.8
55-64	669,000	10.3	718,000	10.4	708,000	10.3
65+	109,000	1.7	133,000	1.9	139,000	2.0
Females	5,048,000	100.0	5,424,000	100.0	5,393,000	100.0
15-19	326,000	6.5	425,000	7.8	418,000	7.8
15-16	69,000	1.4	134,000	2.5	124,000	2.3
17-19	257,000	5.1	291,000	5.4	295,000	5.5
20-24	652,000	12.9	682,000	12.6	679,000	12.6
25-34	1,519,000	30.1	1,604,000	29.6	1,592,000	29.5
35-44	1,337,000	26.5	1,402,000	25.8	1,405,000	26.1
45-54	779,000	15.4	849,000	15.7	843,000	15.6
55-64	375,000	7.4	405,000	7.5	394,000	7.3
65+	58,000	1.1	57,000	1.1	61,000	1.1

Sources: 1) National Census Test, April 1989, weighted counts  
Employed by age and sex

2) Labour Force Survey, October and November 1988,  
reweighted to 1989, Table P01

Table 7

Comparison of NCT, Nov. 1988 and LFS Oct. and Nov. 1988 employment distribution.  
by Class of Worker, Canada

	'000'					
	NCT Q30=Yes	% Dist.	LFS October	% Dist.	LFS November	% Dist.
Both Sexes						
Employed	11,181*	100.0	12,324	100.0	12,255	100.0
Paid Workers	9,911	88.6	10,552	85.6	10,529	85.9
Unpaid Family Workers	67	0.6	73	0.6	63	0.5
Self-employed	1,203	10.8	1,700	13.8	1,663	13.6
Males						
Employed	6,312*	100.0	6,900	100.0	6,862	100.0
Paid Workers	5,400	85.6	5,883	82.4	5,666	82.6
Unpaid Family Workers	25	0.4	15	0.2	13	0.2
Self-employed	887	14.1	1,203	17.4	1,184	17.3
Females						
Employed	4,869*	100.0	5,424	100.0	5,393	100.0
Paid Workers	4,511	92.6	4,869	89.8	4,864	90.2
Unpaid Family Workers	42	0.9	58	1.1	50	0.9
Self-employed	316	6.5	497	9.2	479	8.9

\* Does not include persons who left question 37 blank.

TABLE 8

- 2 -

NATIONAL CENSUS TEST, APRIL, 1989  
 CONTROL COUNT TABLE 3.  
 LINK BETWEEN Q30 AND Q44  
 BY AGE AND SEX  
 WEIGHTED COUNTS, CANADA AND PROVINCES-Continued

## CANADA

	Total	SEX	
		MALE	FEMALE
VARIABLE TO LINK RESPONSES FROM Q30 & Q44			
Q30=Y & Q44=N			
AGE 15 PLUS.....	1,172,642	786,665	385,976
AGE 15-19.....	36,662	20,160	16,502
AGE 20-24.....	73,484	47,002	26,482
AGE 25-34.....	277,014	177,384	99,630
AGE 35-44.....	309,720	212,485	97,235
AGE 45-54.....	217,776	150,443	67,333
AGE 55-64.....	179,899	129,163	50,736
AGE 65 PLUS.....	78,087	50,028	28,059
Q30=Y & Q44=BLANK			
AGE 15 PLUS.....	213,712	118,042	95,670
AGE 15-19.....	27,103	11,914	16,089
AGE 20-24.....	25,533	16,082	8,651
AGE 25-34.....	51,633	30,332	21,301
AGE 35-44.....	47,109	21,760	25,349
AGE 45-54.....	37,666	21,756	15,910
AGE 55-64.....	20,300	14,548	5,752
AGE 65 PLUS.....	4,368	1,750	2,618
Q30=N & Q44=Y			
AGE 15 PLUS.....	257,517	122,713	134,804
AGE 15-19.....	60,845	31,778	29,067
AGE 20-24.....	48,284	28,783	19,501
AGE 25-34.....	57,511	22,708	34,803
AGE 35-44.....	35,508	14,612	20,896
AGE 45-54.....	21,532	7,059	14,481
AGE 55-64.....	26,726	13,657	13,069
AGE 65 PLUS.....	7,111	4,126	2,986

See footnotes at end of table.

Table 8

- 3 -

NATIONAL CENSUS TEST, APRIL, 1989  
 CONTROL COUNT TABLES.  
 LINK BETWEEN Q30 AND Q44  
 BY AGE AND SEX  
 WEIGHTED COUNTS, CANADA AND PROVINCES-Continued

## CANADA

	Total	SEX	
		MALE	FEMALE
VARIABLE TO LINK RESPONSES FROM Q30 & Q44			
Q30=N & Q44=N			
AGE 15 PLUS.....	7,075,357	2,667,481	4,407,876
AGE 15-19.....	858,190	443,273	414,918
AGE 20-24.....	556,938	260,630	296,309
AGE 25-34.....	921,936	256,878	665,058
AGE 35-44.....	674,998	179,040	495,958
AGE 45-54.....	621,649	160,901	460,748
AGE 55-64.....	1,135,444	405,560	729,884
AGE 65 PLUS.....	2,306,200	961,200	1,345,001
Q30=N & Q44=BLANK			
AGE 15 PLUS.....	343,389	117,746	225,642
AGE 15-19.....	125,931	62,108	63,823
AGE 20-24.....	24,461	14,239	10,222
AGE 25-34.....	40,795	8,726	32,070
AGE 35-44.....	42,009	5,565	36,443
AGE 45-54.....	28,218	2,389	25,830
AGE 55-64.....	39,806	10,514	29,293
AGE 65 PLUS.....	42,168	14,225	27,943
Q30=BLANK & Q44=Y			
AGE 15 PLUS.....	237,414	130,241	107,173
AGE 15-19.....	22,503	13,686	8,817
AGE 20-24.....	33,389	17,642	15,748
AGE 25-34.....	75,490	40,088	35,402
AGE 35-44.....	49,680	26,559	23,121
AGE 45-54.....	34,147	19,836	14,311
AGE 55-64.....	18,047	10,272	7,775
AGE 65 PLUS.....	4,159	2,159	2,000

See footnotes at end of table.



COMPARISON OF CENSUS 1986 EMPLOYMENT ESTIMATES TO MAY AND JUNE LABOUR FORCE SURVEY  
EMPLOYMENT ESTIMATES BY SEX FOR CANADA AND PROVINCES

CANADA AND PROVINCES	SEX	CENSUS 86	LFS MAY 86	LFS JUNE 86	% DIFF MAY	S.D. MAY	% DIFF JUNE	S.D. JUNE
NEWFOUNDLAND	T	182,365	180,000	201,000	1.31	2.26	-9.27	1.60
	M	108,555	108,000	121,000	0.51	2.25	-10.29	1.56
	F	73,805	72,000	80,000	2.51	3.26	-7.74	2.77
PRINCE EDWARD ISLAND	T	52,125	52,000	57,000	0.24	1.41	-8.55	1.32
	M	29,560	29,000	32,000	1.93	1.66	-7.63	1.42
	F	22,570	23,000	25,000	-1.87	2.25	-9.72	2.30
NOVA SCOTIA	T	346,685	343,000	355,000	1.07	1.12	-2.34	1.15
	M	201,790	197,000	204,000	2.43	1.24	-1.08	1.21
	F	144,895	146,000	151,000	-0.76	1.84	-4.04	2.02
NEW BRUNSWICK	T	266,990	268,000	275,000	-0.38	1.14	-2.91	1.26
	M	154,260	153,000	161,000	0.82	1.31	-4.19	1.44
	F	112,730	115,000	114,000	-1.97	1.87	-1.11	1.77
QUEBEC	T	2,778,460	2,823,000	2,943,000	-1.58	0.83	-5.59	0.83
	M	1,626,760	1,650,000	1,722,000	-1.41	0.83	-5.53	0.87
	F	1,151,700	1,173,000	1,220,000	-1.82	1.34	-5.60	1.40
ONTARIO	T	4,553,030	4,552,000	4,627,000	0.02	0.50	-1.60	0.54
	M	2,563,855	2,559,000	2,606,000	0.19	0.53	-1.62	0.56
	F	1,989,180	1,993,000	2,021,000	-0.19	0.86	-1.57	0.90
MANITOBA	T	492,145	489,000	495,000	0.64	0.95	-0.58	0.95
	M	279,650	275,000	279,000	1.69	1.01	0.23	1.02
	F	212,500	214,000	216,000	-0.70	1.54	-1.62	1.51
SASKATCHEWAN	T	455,720	458,000	465,000	-0.50	1.06	-2.00	1.06
	M	268,345	264,000	267,000	1.65	1.03	0.50	1.06
	F	187,380	194,000	198,000	-3.41	1.70	-5.36	1.59
ALBERTA	T	1,154,495	1,144,000	1,161,000	0.92	0.74	-0.56	0.78
	M	656,215	638,000	652,000	2.86	0.81	0.65	0.80
	F	498,275	505,000	509,000	-1.33	1.19	-2.11	1.25
BRITISH COLUMBIA	T	1,271,685	1,282,000	1,310,000	-0.80	0.85	-2.92	0.98
	M	724,820	731,000	747,000	-0.85	0.93	-2.97	1.02
	F	546,860	551,000	563,000	-0.75	1.33	-2.87	1.67
CANADA	T	11,553,700	11,590,000	11,887,000	-0.31	0.32	-2.80	0.33
	M	6,613,810	6,604,000	6,791,000	0.15	0.33	-2.61	0.35
	F	4,939,890	4,987,000	5,096,000	-0.94	0.52	-3.06	0.55

Appendix  
Table 2

TABLE 1: COMPARISON OF 1991 AND 1996 CENSUS AND LABOUR FORCE SURVEY CLASS OF WORKER COUNTS  
UNIVERSE - ALL WORKERS WHO WORKED SINCE JANUARY 1st OF THE PREVIOUS YEAR  
RESTRICTED TO THE LABOUR FORCE SURVEY UNIVERSE

## CANADA

BOTH SEXES	1991 LFS COUNT	% DIST.	1996 LFS COUNT	% DIST.	1991 CENSUS COUNT	% DIST.	1996 CENSUS COUNT	% DIST.	% INCREASE LFS 91-96	% INCREASE CENSUS 91-96	% DIFFERENCE LFS/CENSUS 96
CLASS OF WORKER MAIN JOB											
ALL CLASSES	12,444,388	100.00	14,075,597	100.00	12,993,090	100.00	12,474,205	100.00	6.90	5.24	-2.94
PAID WORKER	11,501,299	87.25	12,186,446	86.59	11,747,435	90.41	12,291,620	89.89	5.87	4.43	0.87
UNPAID FAMILY WORKER	560,275	4.22	120,287	0.85	81,130	0.62	98,905	0.72	-24.95	21.81	-17.78
SELF-EMPLOYED	1,504,814	11.43	1,768,744	12.55	1,164,525	8.96	1,283,285	1.30	17.41	10.20	-27.37
SELF-EMPLOYED UNINCORPORATED	413,154	3.14	505,774	3.59	341,240	2.63	398,740	2.92	22.42	14.84	-21.44
INCORPORATED BUSINESS - WITH PAID HELP	347,300	2.64	412,600	2.93	252,375	1.94	293,745	2.15	16.00	16.39	-28.81
INCORPORATED BUSINESS - NO PAID HELP	45,824	0.36	73,174	0.44	98,985	0.68	105,000	0.77	11.53	18.13	-12.47
SELF-EMPLOYED UNINCORPORATED	1,091,660	8.29	1,264,990	8.94	822,245	6.34	884,545	6.47	15.31	7.44	-29.85
NOT INCORPORATED - WITH PAID HELP	270,370	2.04	343,440	2.44	272,815	2.10	304,575	2.24	24.75	12.37	-16.74
NOT INCORPORATED - NO PAID HELP	116,552	0.89	119,530	0.85	350,455	2.64	577,970	4.23	687.23	5.00	-37.81
SELF-EMPLOYED - OTHER (TYPE B)	704,158	5.25									

## MALE

CLASS OF WORKER MAIN JOB											
ALL CLASSES	7,578,587	100.00	7,842,541	100.00	7,491,490	100.00	7,429,980	100.00	3.75	1.85	-2.94
PAID WORKER	6,451,495	85.12	6,590,443	83.82	6,536,350	87.25	6,415,895	86.71	2.15	1.21	0.39
UNPAID FAMILY WORKER	32,291	0.43	28,647	0.36	21,890	0.29	24,390	0.32	-11.22	12.33	-11.22
SELF-EMPLOYED	1,094,811	14.45	1,243,432	15.81	933,050	12.45	989,495	12.97	13.50	6.05	-26.42
SELF-EMPLOYED UNINCORPORATED	354,141	4.67	416,034	5.29	278,540	3.72	317,940	4.17	17.48	14.14	-23.58
INCORPORATED BUSINESS - WITH PAID HELP	294,941	3.92	344,502	4.41	206,835	2.79	225,725	3.07	16.69	12.08	-31.97
INCORPORATED BUSINESS - NO PAID HELP	57,290	0.75	87,532	1.12	47,730	0.63	82,210	1.08	21.56	17.99	-18.23
SELF-EMPLOYED UNINCORPORATED	740,470	9.77	827,298	10.52	656,490	8.74	671,555	8.99	11.71	2.61	-18.64
NOT INCORPORATED - WITH PAID HELP	222,475	2.95	273,274	3.48	224,125	2.99	243,405	3.19	22.28	8.47	-19.84
NOT INCORPORATED - NO PAID HELP	57,110	0.75	554,124	7.05	430,345	5.74	427,950	5.61	3186.40	-0.56	-22.77
SELF-EMPLOYED - OTHER (TYPE B)	500,084	6.60									

## FEMALE

CLASS OF WORKER MAIN JOB											
ALL CLASSES	5,507,791	100.00	6,212,955	100.00	5,501,600	100.00	6,044,230	100.00	11.19	9.90	-2.48
PAID WORKER	5,049,804	90.37	5,598,003	90.10	5,210,885	94.72	5,678,130	93.91	10.84	8.97	-1.43
UNPAID FAMILY WORKER	427,084	2.29	11,621	0.17	59,240	1.00	74,315	1.23	28.41	25.45	-10.89
SELF-EMPLOYED	410,903	7.34	523,332	8.42	231,470	4.21	293,785	4.84	27.44	24.92	-43.84
SELF-EMPLOYED UNINCORPORATED	58,993	1.06	87,740	1.41	42,095	0.76	80,800	1.34	52.12	28.00	-1.96
INCORPORATED BUSINESS - WITH PAID HELP	50,259	0.90	66,090	1.06	43,545	0.79	58,010	0.96	31.23	33.22	-12.24
INCORPORATED BUSINESS - NO PAID HELP	8,634	0.15	23,642	0.38	11,155	0.20	22,790	0.38	173.62	16.98	-3.60
SELF-EMPLOYED UNINCORPORATED	351,010	6.20	433,592	6.98	168,775	3.07	212,985	3.52	23.53	24.19	-50.80
NOT INCORPORATED - WITH PAID HELP	47,495	0.85	70,184	1.13	48,690	0.89	62,145	1.04	47.78	29.32	-10.29
NOT INCORPORATED - NO PAID HELP	99,443	1.78	263,406	4.25	120,090	2.18	150,620	2.48	265.44	24.82	-58.72
SELF-EMPLOYED - OTHER (TYPE B)	204,072	3.65									

OTHER (TYPE B) IS INCLUDED IN SELF-EMPLOYED UNINCORPORATED FOR LFS '91 ONLY

Do not include any courses you may have taken for leisure, recreation or personal interest.

## Question 28

### Degrees, Certificates or Diplomas

**Mark Secondary (high) school graduation certificate** if you graduated from high school, and whether your certificate was classified as either junior or senior matriculation, general or honours, or technical-commercial.

**Mark Trades certificate or diploma** if you received a certificate or diploma through apprenticeship or journeyman training and/or in-school training, trades-level vocational and pre-vocational courses at community colleges, institutes of technology and similar institutions where the minimal entrance requirement was less than secondary (high) school, junior or senior matriculation, or equivalent.

**Mark Other non-university certificate or diploma** if you received a certificate or diploma (other than a trade certificate or diploma) granted by a community college (both transfer and semi-professional career programs), CEGEP (both general or professional), institute of technology, or any other non-degree-granting educational institution.

**Mark University certificate or diploma below bachelor level** if you have a teaching certificate awarded by a provincial Department of Education at an approved institution such as normal school or college of education. If you earned your teaching qualifications at an accredited university's faculty of education, mark **Bachelor degree(s)**.

If you have a diploma, certificate or license awarded by a professional association such as accounting, banking, or insurance and your course of study was conducted through a university, you should mark **University certificate or diploma below bachelor level** if a bachelor degree was NOT a prerequisite — or, mark **University certificate or diploma above bachelor level** if a bachelor degree WAS a normal prerequisite.

## Question 29

### Major Field of Study

If you earned more than one highest degree (two bachelor's degrees or two master's degrees), indicate the field of study for the one most recently earned.

If you specialized in more than one field of study while earning your degrees, indicate the area in which you have the greatest number of earned credits or courses.

Wherever possible, indicate the subfield of specialization within your broad area of training — especially in the case of graduate studies or other advanced training.

## Question 30

### Current Employment

You are considered currently employed during the week of October 30 to November 5, if you:

- did any work at all (see definition of WORK below) EXCLUDING volunteer work, housework or other maintenance around the home;
- were absent from your job because of temporary illness, or disability, vacation, labour dispute, maternity leave, paid training course, or other similar reason.

For this question and those that follow, WORK is defined as:

- working for wages, salaries, tips or commissions; working for payment in kind (room, board or supplies) in non-family enterprises such as a religious order; serving as a member of the Armed Forces; and work for pay, such as baby-sitting, cleaning, or newspaper delivery.
- working in your own business, farm or professional practice — alone or in a partnership. Include time spent in the operation and setting up of such enterprises whether or not the goods were sold or services provided and whether or not a profit was made; free-lance or contract work such as dressmaking, private duty nursing; operating a direct distributorship selling and delivering goods; fishing or trapping for profit or the maintenance of your family or community.
- working without pay in a family farm or a business owned and operated by a relative who is a member of your household (for example, assisting in seeding, doing accounts).

If you were on temporary lay-off or are scheduled to start work at a new job, do not indicate that you are currently employed.

## Question 31

### Last Date of Work

This question concerns only work done in order to obtain financial compensation, that is, work for wages, salaries, tips, commissions or piece-rate payment, or the net income from self-employment. (It also includes work done, without formal pay arrangements, by family members for family businesses,

# RESULTS FROM THE RE-INTERVIEW QUESTIONNAIRE

Three questions were included on the re-interview questionnaire in order to determine the employed population in the traditional fashion (as in the LFS and Census). These questions were:

- Q20R During the week of October 30 to November 5, how many hours did you work (excluding volunteer work, housework, maintenance or repairs for your own home?
- Q21R During the week of October 30 to November 5, did you have a job or business at which you did not work?
- Q22R During the week of October 30 to November 5, were you absent from work for any one of the following reasons?:
- O on temporary lay-off from a job to which you expect to return
  - O on vacation
  - O due to your own illness or disability
  - O personal or family responsibilities
  - O you had a new job which had not as yet started
  - O other reasons

These questions were asked so that the estimate of the employed population could be compared for the same sample using the traditional approach as well as from the NCT question 30 - Is this person currently employed?.

One of the notable findings from the re-interview data was the high non-response to the actual hours worked question (Q20R). The non-response rate was 14.6%. This rate was extremely high compared to the 3% non-response from a similar question on the 1986 Census questionnaire.

The non-response to Question 30 from the NCT was 4% however, for the re-interview sample population this percentage rose to 5.6%.

Because of these high non-response rates, the following analysis is based on a sub-population - those persons who provided responses to both the current employment and to the actual hours worked questions. These persons represented 82% of the population 15 years and over in the re-interview sample (Table 1).

## I EMPLOYMENT POPULATION RATIOS

The employment population ratios for the re-interview population were calculated as follows:

### CURRENT EMPLOY- MENT

Persons who answered NCT-Q30 yes expressed as a percentage of persons who gave responses to both current employment and actual hours (Q20R)

### ACTUAL HOURS

Persons who reported hours as well as persons who reported no hours and indicated absence from a job due to vacation, own illness, person or family responsibilities or other reasons, expressed as a percentage of persons who responded to both current employment and actual hours worked

At the Canada level the employment population ratio from hours-absent questions was slightly higher than the ratio from the current employment question (Table 2). Given the small sample size it is not possible to say whether the differences are significant. With the exception of British Columbia and Quebec the employment population ratio from hours-absent were higher in all provinces. The greatest differences occurred in the Manitoba, Saskatchewan and Alberta.

## II - INCONSISTENCIES

- (a) Of the 2484 who reported hours, 150 (6%) indicated that they were not currently employed.
- (b) Of the 90 persons who reported they were absent from a job, 28 (31%) indicated that they were not currently employed.
- (c) Of the 2520 persons who indicated that they were currently employed, 124 (4.9%) did not report hours worked or absence from a job.

The first two types of inconsistencies indicate an under-counting of the employed population by the Is this person currently employed? question while the third may be indicative of over reporting. In each case the problem may stem from a lack of understanding of what is meant by currently employed. The third type may also be due to recall problems on the part of the respondent answering the hours question. Although the reference period remained the same the re-interview questions were asked several weeks later.

TABLE 1

HOW MANY HOURS DID YOU WORK	IS THIS PERSON CURRENTLY EMPLOYED?			TOTAL
	YES	NO	BLANK	
HOURS REPORTED	2334	150	93	2577
(ABSENT) NONE	(62) 186	(28) 1787	95	2068
BLANK	413	261	117	791
TOTAL	2933	2198	305	5436

TABLE 2

## EMPLOYMENT POPULATION RATIOS

	NCT-Q30	HOURS-ABSENT	DIFFERENCE
CANADA	56.5	57.8	1.3
NEWFOUNDLAND	46.1	47.6	1.5
P. E. I.	50.0	51.4	1.4
NOVA SCOTIA	53.8	54.4	.6
NEW BRUNSWICK	48.6	50.3	1.7
QUEBEC	56.9	56.8	-.1
ONTARIO	61.8	62.5	.7
MANITOBA	60.4	62.4	2.0
SASKATCHEWAN	54.1	57.2	3.1
ALBERTA	61.9	64.3	2.4
BRITISH COLUMBIA	57.1	56.9	-.2

National Census Test  
Analysis of Question 39 and 40

Question 39, the number of years the respondent worked since leaving school and question 40, the start date of the respondent's most current job are both new questions to the census. Therefore, the analysis of these two questions focussed on the respondents understanding of the questions as determined from the consistency of their responses in relation to other variables such as age, sex, school attendance, when last worked as well as to each other.

**Question 39 - Number of Years Worked Since Leaving School.**

Using weighted data, of those 15 years of age and over, 72.5% of respondents answered question 39 while 27.5% left this question blank. However, when only those respondents who stated that they last worked in 1988 or 1987 are considered, the response rate is 97.4%.

The responses were further broken down to isolate special cases and point out any possible inconsistencies between the response to question 39 and other variables. First respondents who answered "Not applicable, full-time student" were counted separately. Second, the number of years of work experience reported was compared against the respondent's age. Three special cases were flagged: those where the number of years worked was greater than age; those who appeared to begin working before 15 years of age; and those with more than 60 years of work experience. The results are summarized below.

Students	7.5%
Age - Q39 < 0	.1%
Age - Q39 < 15	2.8%
Q39 > 60	.03%
Valid Response	62.1%
No Response	27.5%

Further analysis of "students" and the special "flagged" cases revealed the following points:

- Of those respondents who indicated they were full-time students in question 39, 85.6% were under 25 years of age indicating a high degree of consistency for this population.
- For those records where the number of years of work experience exceeded age (93 unweighted records) over half were found to contain a keying error where the response to question 38 appeared in the first position of question 39, effectively deleting part of the response to this question.
- Records where the respondent's age when they started work was less than 15 years, seem to indicate respondents who do not understand question 39. These respondents appear to report part-time work done while still going to school or summer employment.
- About half of responses with more than 60 years work experience (about 24 unweighted records in total) were found to be valid.

Question 39 was also checked against question 27 - School Attendance to determine whether responses to these two questions were consistent, that is, that those who said they attended school full-time in question 27, also reported that they were full-time students in question 39. The following table summarizes the results for all respondents 15 years and over.

Agreement between Q27 and Q39	66.4%
Q27 or Q39 was blank	30.5%
Q27 = Full-time student Q39 = 0 or 1 year	.2%
Q27 = Full-time student Q39 > 1 year	1.2%
Q27 = No or Part-time student, Q39 = Student	1.7%



Further analysis of the conflicts revealed that:

- Of those who indicated they were a student in question 39 but not in question 27, 62.3% were in the 15-19 year age group. Note that some of these respondents never worked and should have actually skipped 39.
- Older respondents who worked before 1987 or never worked and should have skipped the economic section, have in fact continued on and answered question 39. Some of these respondents appear to check the tick box indicating "not applicable" and ignore the wording "full-time student".

#### Summary:

Generally responses were consistent with respondent's ages and other variables such as sex, when last worked and school attendance. Respondents do not appear from the data to have trouble understanding question 39, although comments from the interviewer debriefings would suggest otherwise. Just looking at numbers one cannot really determine whether an answer is "reliable" or not. Data from the re-interview questionnaire may indicate whether respondents actually understood or needed help to answer question 39.

# Re-interview Results to Question 39

Follow-up of question 39 was limited to respondents who indicated during the re-interview that they had left a job for a year or more to return to school full time. These respondents were then asked to report the number of years they had worked before and after returning to school. Of the 5436 respondents 15 years of age and over, only 261 indicated that they had returned to school. Of these, 238 respondents had reported on the NCT questionnaire that they had last worked in 1987 or 1988 and provided a response to both question 39 and the re-interview question.

The number of years worked since leaving school reported by the 238 respondents on the NCT questionnaire were compared with their responses from the re-interview. The results showed that only 37.8% of the responses to the NCT came within 1 year of the responses given on the re-interview questionnaire. Sixty-two percent of respondents reported a significantly different number of years during the re-interview than during the test. The results of the comparison are summarized below:

Agreement between Q39-NCT and re-interview response (within ± 1 year)	37.8%
Disagreement between Q39-NCT and re-interview response	62.2%

Looking at individual records, it was obvious in many cases that respondents included both the years in which they worked before returning to school full time, as well as the years they worked after schooling. In other cases, differences may have been due to interviewer influence, proxy response and some coding/capture error. Nevertheless, although the sample is small these data seem to bear out comments made by the interviewers during debriefing sessions, that respondents are confused about the meaning of question 39.

# Question 40 - Start Date of Most Recent Job

Question 40 asked respondents to report the date on which they started their most current job. For the purpose of this analysis, the date reported was used to derive the number of years the respondent had worked with his/her most recent employer. Similar to the analysis of question 39, the derived number of years was compared with variables such as age, sex and question 39 itself to isolate inconsistent or "questionable" responses.

The results showed that of respondents 15 years of age and over, 66.5% responded to question 40, while 33.5% left it blank. Again, when only those respondents who reported they had last worked in 1987 or 1988 and did not tick the "not applicable" box in question 39 (thus following the skip pattern in the questionnaire) are considered, the response rate becomes 97%. The following table gives a breakdown of the responses:

Age - Q40 < 0 years	.1%
Age Q40 < 15 years	.9%
Q40 = Q39	3.3%
Valid response	62.2%
No response	33.5%

Further investigation into the flagged cases showed:

- Those whose number of years in their current job was greater than their age (Age - Q40 < 0) affected 61 unweighted records. The majority of these cases appeared to be made up of capture errors and in a few cases errors in matching person information. There were a couple of cases where the respondents obviously did not understand the question as they entered their birthdate.
- About 49% of respondents whose age at which they started their current job was less than 15 years were between the ages of 15 and 24. Many appear to be students reporting part-time work. These same respondents reported they were students in question 39 and continued on to answer question 40 when in fact they should have skipped it.

- Among those whose response to Q40 exceeded Q39 (1861 unweighted records) 584 were found to have Q39 blank and a response for Q40. An additional 225 (unweighted) responses were from respondents who worked before 1987 or never worked and therefore should have skipped this section. These respondents reported the number of years worked for jobs held in the past for question 39 (i.e. 3 years) and the start date of their last job (i.e. 1941) in Q40. Thus it appears they worked longer in their current job.
- Of persons who worked in 1987 or 1988, there were still 962 records where the number of years in the current job exceeded the number of years of work experience in Q39. This would result in about 363,053 persons when the data are weighted.

#### Summary:

Overall, responses were again generally consistent with the respondent's age, sex and with question 39. Where there does seem to be a problem is with students and respondents who last worked before 1987 or never worked and who should not have answered question 39 or 40. This problem seemed to affect mainly the 15-19 age group and older respondents (45 and over) particularly women, who reported their work experience for a job held in the past. Still, these problem cases accounted for only about 4% of the responses.

# Re-interview Results to Question 40

Follow-up of question 40 asked respondents to report the number of years they had worked in their most current/recent job. In all, 2880 respondents 15 years of age and over had last worked in 1987 or 1988, and provided a response to both the NCT and re-interview questions.

The number of years with current employer reported by the respondent on the re-interview questionnaire was compared with the derived number of years created for question 40 during analysis of the NCT. The results of the comparison found that 48% of responses to the NCT question exactly matched the re-interview response. An additional 30% of responses differed by  $\pm 1$  year. These results are shown below:

Agreement between Q40-NCT and re-interview question	48.0%
Difference between Q40-NCT and re-interview response (within $\pm 1$ year)	30.2%
Disagreement between Q40-NCT and re-interview response	21.8%

The results of the re-interview suggest that this question was more readily understood by respondents and would obtain more reliable results than question 39 if it were to remain on the census in 1991.

## National Census Test Analysis

### Issue 7 - Quality of response to the Question on When Last Worked.

This analysis was done in order to see what effect would be found in processing questions with minimum 'grooming' and also to evaluate any inconsistencies found in the economic variables. In every case in which there was an inconsistency between Question 31 and any of the other variables the individual records were printed and categorized. The overall results are shown in Table 1. In general we found that the data for Question 31, Last Worked, was of higher quality than was expected. In further investigation of the inconsistent values it was found that only when there was an entry for Question 42, Weeks, was the data for the categories A) Never Worked and B) Worked Before 1987, doubtful. In most other cases for these 2 categories the majority of the entries for the other economic questions seemed to be inappropriate or inadvertent marking of check boxes, or reporting of employment previous to the reference period.

This was not strictly the case when Question 31 was Blank and there were responses for the other economic variables. In these instances a majority (roughly 70 %) of the responses were positive responses that would indicate that Question 31 should probably have been checked in the categories Worked in 1988 or Worked in 1987. However, even with these responses, many of the references could be to employment prior to the reference period.

#### In summary

The When Last Worked question can be more useful than expected in the Edit of Work, Whom to Code and Universe definition for economic variables if grooming is reduced. Although these edits and procedures will not be outlined here they could include elements already existing such as assigning extra occupation codes to those persons who identify themselves as 'homemakers' or 'retired'. In addition, extra weight could be given to respondents who give positive responses to questions regarding Weeks of Employment as it already is for those specify Hours Worked during the reference week.

Cautionary note : The effect of not retaining multiple responses in the data capture of the NCT information would have some effect on these results (e.g. only the Worked in 1988 check box would be indicated as checked if all 4 boxes had been checked). It is difficult to estimate how much this would have changed the results.

TABLE 1

Categories of response for Question 31, When did this person work, even for a few days? in comparison with responses to other economic questions on the National Census Test - unweighted data

	#	%
All Responses	73,002	100.0
Not Applicable	17,535	24.0
Non Response	2,388	3.3
Worked in 1988 or Currently Employed (Question 30)	36,020	49.3
Worked in 1987	1,426	2.0
Worked before 1987 (total)	10,819	14.8
Consistent with other Questions	9,892	13.6
Inconsistent with Weeks Worked	93	0.1
Inconsistent with other economic Questions	834	1.1
Never worked (total)	4,164	5.7
Consistent with other Questions	4,064	5.6
Inconsistent with Weeks Worked	22	0.0
Inconsistent with other economic Questions	78	0.1
Blank (total)	650	0.9
Inconsistent with Weeks Worked	74	0.1
Inconsistent with other economic Questions	576	0.8

## NOTES:

1) For the categories Worked Before 1987 and Never Worked, 70% of the conflicts with Weeks Worked indicate these respondents should have checked Worked in 1987 or Worked in 1988.

2) For the categories Worked Before 1987 and Never Worked, slightly less than 50% of the conflicts with Economic questions other than Weeks Worked indicate that original values for When Last Worked were incorrect. Even for most of these cases the original value might very well be valid (e.g. the economic information could be the reporting of a job prior to the reference period and not in 1987 or 1988).

3) For the category Blank, 70% of the inconsistent responses with other Economic Questions were, in this case, indicative of respondents that should have checked either Worked in 1988 or Worked in 1987.

Issue 8 - Effect of separating the Question 'If self-employed, was this person's farm or business incorporated?' from the class of worker question which identifies those people who are self-employed.

In the 1981 and 1986 Censuses the question on incorporation status was a subsidiary question to the original question on class of worker (i.e. it was not a separate question but was simply a 'part b' that was to be completed by those people that had replied yes, they were self-employed with paid help or yes, they were self-employed without paid help). There was a significant non-response for this incorporation status question (e.g. 26.2 % in 1986 based on final self-employed values with unweighted data).

With the change in questionnaire format of the NCT and the separation of the incorporation status question there was a significant reduction in the non-response rate. Based on unweighted data the non-response rate has now been reduced to 2.9 %. There was, however, significant 'over-response' by those respondents who reported that they were paid workers or unpaid family workers (people who were directed not to answer the question on incorporation status). Excluding blanks, there were 3,235 persons who responded to the incorporation status question who should not have. There were 4,139 persons who correctly responded to the incorporation status question. While there would appear to be a large number of incorrect responses, it should be noted that this is caused by the fact that there are significantly more paid workers than self-employed. In fact the over-response rate is only 10.0 %, which is quite reasonable when compared to other over-response rates in the NCT response rate study.

In summary

With the acceptance of incorporation status as a separate question in 1991, we can expect drastic increases in both response rates and data quality.



Table 2

Distribution by number and percentage of responses to Question 38, Incorporation Status, showing responses to Question 37, Class of Worker, based on unweighted National Census Test data

NOTE : Class of Worker = 'Blank' responses are excluded

Class of Worker	Incorporation Status Responses				% Non-blank -Response Rates
	Total	Blank	No	Yes	
A - Paid Worker	31,877	28,839	2,826	212	9.5
B - Unpaid Family	560	363	171	26	35.2
A + B (Over-response)	32,437	29,202	2,997	238	10.0
C - Self-Employed w/o PH	2,395	67	1,946	382	97.2
D - Self-Employed with PH	1,869	58	923	888	96.9
C + D (Incorp. Expected)	4,264	125	2,869	1,270	97.1

The high over-response rate for Unpaid Family Workers (35.2 %) reflects the fact that the wording of the incorporation status question, i.e. If self-employed, was this person's business or farm incorporated?, is particularly relevant for those operations where you would find the majority of Unpaid Family Workers.

#### QUESTION 41 IN HOW MANY WEEKS DID THIS PERSON WORK IN 1987?

Question 41 on the NCT is similar to the question asked in the 1986 Census and in previous censuses. There were only minor wording changes. For example in 1986 the weeks worked question reminded respondents not to include housework, maintenance or repairs for their own home. No significant change in the data quality was expected as a result of the minor changes in presentation.

Table 1 shows the weeks worked percentage distribution from the NCT as well as from the 1981 and 1986 Censuses. The Census data are very similar with only small changes occurring over the five year period. In contrast, the NCT data show a marked increase in the percentage of full-year workers (49-52 weeks) and lower percentages in each of the remaining weeks categories compared to 1986.

In 1981 and 1986 the Census results were compared to the results from the Annual Work Patterns Survey (AWPS). The Census data was considerably lower than the AWPS for the 49-52 week category in both these census years. Differences in methodology was considered to be the major cause. Under the self-enumeration method many respondents likely excluded weeks of vacation and sick leave even though they were instructed to include them.

Unfortunately it is not possible to compare the results of the NCT to the AWPS as the latter no longer exists. The NCT results were however compared to the results of the Survey of Consumer Finance (Table 2). The coverage of the SCF and the NCT were similar. The SCF took place in April of 1988. However, while the NCT results are for all persons who worked in 1987, the SCF results are for persons who were in the labour force in April 1988 who worked in 1987. The comparison shows that the NCT reported a smaller percentage of full-year workers than did the SCF. The results were very similar for persons who worked less than 10 weeks in 1987. There was a higher percentage of persons who worked 10-48 weeks in 1987 in the NCT.

It appears as though more respondents reported themselves as full-year workers in the NCT than would have been expected from the results of past Censuses. Perhaps this is an indication that the change in format with instructions in larger print may have resulted in more respondents including vacation and sick leave as requested. Another possible reason for the increase in the 49-52 weeks category is the inclusion of a question on work experience (question 40) just before the weeks worked question. Respondents would have been thinking in terms of a continuous period of work in question 40 and this may have influenced how they responded to question 41.

**QUESTION 42    DURING MOST OF THOSE WEEKS DID THIS PERSON WORK FULL-  
TIME OR PART-TIME?**

This question was not new, however, in the 1981 and 1986 Censuses questions 41 & 42 from the NCT were asked in one two-part question. The response rate to NCT question 42 was 99%. This compared favourably to the 94.5% response rate from the 1986 Census. Therefore, the change in format appears to have had a positive effect on the response to question 42.

Table 1

Comparison of the weeks worked in reference year distribution from the NCT and 1981, 1986 Censuses

	1981 Census	1986 Census	N.C.T.
<b>Both Sexes</b>			
Worked in Reference			
Year (1980, 1985, 1987)	100.0	100.0	100.0
1-13 weeks	10.1	10.1	8.0
14-26 weeks	11.7	12.1	9.4
27-39 weeks	8.8	8.5	6.2
40-48 weeks	13.9	12.0	9.0
49-52 weeks	55.5	57.4	67.4
INVALID	0.0	0.0	0.3
<b>Males</b>			
Worked in Reference			
Year	100.0	100.0	100.0
1-13 weeks	7.8	8.6	6.5
14-26 weeks	10.1	10.8	7.9
27-39 weeks	8.1	7.9	5.8
40-48 weeks	13.9	11.7	8.4
49-52 weeks	60.2	61.0	71.4
INVALID	0.0	0.0	0.4
<b>Females</b>			
Worked in Reference			
Year	100.0	100.0	100.0
1-13 weeks	13.3	12.0	9.9
14-26 weeks	14.1	13.6	11.2
27-39 weeks	9.8	9.3	6.8
40-48 weeks	13.9	12.3	9.8
49-52 weeks	48.9	52.7	62.3
INVALID	0.0	0.0	0.3

Table 2

Comparison of the weeks worked in 1987 percentage distribution  
for the NCT and the Survey of Consumer Finance

	Survey of Consumer Finance	N.C.T.
<b>Both Sexes</b>		
Worked in 1987	100.0	100.0
0- 9 weeks	4.6	4.4
10-19 weeks	4.8	6.9
20-29 weeks	6.3	7.1
30-39 weeks	4.8	5.3
40-48 weeks	5.8	9.0
49-52 weeks	73.7	67.4
<b>Males</b>		
Worked in 1987	100.0	100.0
0- 9 weeks	3.8	3.5
10-19 weeks	4.1	5.7
20-29 weeks	5.5	6.1
30-39 weeks	4.6	4.9
40-48 weeks	5.4	8.4
49-52 weeks	76.6	71.4
<b>Females</b>		
Worked in 1987	100.0	100.0
0- 9 weeks	5.6	5.6
10-19 weeks	5.8	8.3
20-29 weeks	7.1	8.3
30-39 weeks	5.1	5.7
40-48 weeks	6.2	9.8
49-52 weeks	70.1	62.3

- periodic support from persons not in the household
- net income from roomers and boarders
- income from abroad (e.g., pensions) except dividends and interest which should go into part (h)
- non-refundable scholarships and bursaries
- severance pay
- royalties
- strike pay

Do not include:

- family allowances and federal child tax credits
- cash refund of pension fund contributions
- lump-sum death benefits or any other one time lump-sum payment

## Question 44

### Currently Work for a Wage

Answer "Yes" to currently working for a wage or salary if in your job you are:

- working for wages and/or salaries
- working for piece-rates
- serving as a member of the Armed Forces
- working on commission as a salesperson for only one company and you do not maintain an office or staff
- working as a paid housekeeper or paid nanny

Salespersons who are working for more than one company, or who maintain their own office or staff are considered self-employed and should answer "No".

## Question 45

### Hourly Wages

In Question 45, usual **hourly wage before taxes and other deductions** refers to gross hourly wage before any deductions for income tax, hospital insurance, pension funds, unemployment insurance, Canada Savings Bonds, etc.

If you cannot answer the question on hourly wage rate, mark one of the other pay period categories (per week, every two weeks, per month or other) and report your gross wage or salary for that period as precisely as possible. You may wish to refer to your pay stub to obtain an accurate amount. Remember to report your **gross pay** against the applicable period.

If you indicate "other" pay period, specify (such as per day, per job, on commission) and record the amount involved.

## Question 46

### Household Maintainer

If more than one person is responsible for making these payments, enter the name of the person who usually pays the largest amount first, followed by the name(s) of the other person(s) who also make such payments. If two or more persons contribute equally, list their names in the order in which they were listed in Step 2 of the questionnaire.

## Question 47

### Tenure

Mark "owned" if you own or are buying the dwelling that you occupy, or if a member of your household owns or is buying the

dwelling. Mark "owned" even if the dwelling is situated on rented or leased land, or if it is part of a condominium (registered or unregistered). For census purposes, a condominium is a multi-unit residential complex in which dwellings are owned individually while land is held in joint ownership with others.

Mark "rented" in all other cases, even if the dwelling you occupy is provided without cash rent or at a reduced rent (such as the residence of a member of the clergy, a superintendent's dwelling in an apartment building). Also mark "rented" if your dwelling is part of a co-operative. For census purposes, a co-operative is jointly owned by all members who occupy their dwelling units under a lease agreement.

## Question 48

### Number of Rooms in Dwelling

Do not enter "hall-rooms"; for example, instead of 1 1/2 enter either 1 or 2, depending on which best describes your dwelling.

Include as **separate rooms**, partially divided rooms which you consider to be separate because of fixed or movable partitions or because of the use (such as "L-shaped" living- and dining-rooms).

## Question 49

### Number of Bedrooms

Include all rooms designed and furnished as bedrooms and used **mainly** for sleeping purposes, even though the use may be occasional, as in the case of a "spare" bedroom.

Do not include rooms used for one purpose during the day and for

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Comparison of NCT adjusted employment data with October and November 1988 Labour Force Survey Data (reweighted to 1988 levels)

	Adjusted Employed NCT	LFS October 1988	LFS November 1988	% Difference October	% October	% Difference November	% November
NEED :	17	197	187	0	1.46	+5.3	1.76
PEL :	4	55	53	-3.6	1.37	-7.3	1.68
ALB. :	366	368	369	+0.3	1.10	+1.81	1.13
ALTA. :	278	291	291	-3.8	1.27	+1.1	1.36
BC :	1,115	1,146	1,159	-4.3	1.52	+3.6	1.62
ON. :	4,711	4,864	4,860	-2.7	1.53	-2.6	1.57
MAN. :	477	491	495	-4.7	1.10	+2.6	1.17
SASK. :	411	404	447	-8.1	1.11	-5.0	1.21
ALTA. :	1,152	1,193	1,197	-4.9	1.74	+1.4	1.75
BC :	1,115	1,158	1,145	-2.9	1.51	+1.0	1.60
CANADA :	11,115	12,152	12,155	-3.6	1.53	+3.1	1.64

Table 4

Comparison of NCT Adjusted Population 15 Years and Over and October and November 1988 Labour Force Survey Data (Reweighted to 1986 Census)

	Adjusted NCT Population 15+	OCT LFS	NOV LFS
NFLD	425	425	425
PEL	96	96	96
N.S.	673	673	673
N.B.	543	543	543
QUE.	5,189	5,190	5,192
ONT.	7,396	7,390	7,398
MAN.	804	803	803
SASK.	733	732	731
ALTA	1,789	1,789	1,791
B.C.	2,322	2,320	2,326
CANADA	19,968	19,962	19,979